ARTICLE APPEARED
ON PAGE A21

NEW YORK TIMES
27 March, 1985

U.S. Selects Three to Produce and Service New Secure Telephones

By DAVID BURNHAM
Special to The New York Times

WASHINGTON, March 26 — The Federal Government today chose three of the nation's largest communication companies to produce a new kind of secure telephone that the Government said would end most international and corporate telephone eavesdropping within the next few years.

The phones, about the same size and weight as the multiline units now on many office desks, are expected to cost less than $2,000 each and to become a standard fixture for hundreds of thousands of workers in Government and private business.

The selection of the American Telephone and Telegraph Company, the RCA Corporation and Motorola to build and service the new generation of computerized telephones was made by the National Security Agency after years of debate within the Government and a six-month design competition among five of the nation's communication giants. The agency originally disclosed it plan for such a system in October.

The decision to encourage the production of millions of the relatively inexpensive secure telephones represents new emphasis by the intelligence agency on protecting channels of communications against eavesdropping.

Since the earliest days of electronic intelligence, the agency has concentrated most of its efforts on the intercepting of electronic information.

500,000 Offices Are Targets

Now the Government has decided to make an all-out effort to encourage the installation of equipment to protect a broad range of information, governmental and commerical, against interception.

The security agency hopes to get the phones into the offices of 500,000 Government officials and military contractors as well as perhaps a million other corporate executives within five years. But other surveys have indicated that the total market may be closer to 2.6 million.

"We now think we can button up U.S. voice communications by the end of the decade," said Walter G. Deeley, the deputy director for communications security of the N.S.A., the nation's largest and most secretive intelligence agency.

Mr. Deeley contends that the agency has firm evidence that Soviet Union, other nations and a number of foreign and domestic corporations are conducting various forms of clandestine electronic surveillance that pose a threat to the long term security of the United States.

He said he was not certain about the ultimate impact the new telephones would have on the social and business practices of all those who could afford them. Asked, for example, whether the wide availability of these telephones ultimately would allow criminal organizations to operate without fear of law enforcement wiretaps, he replied, "That's a price we'll have to pay."

Change in Philosophy

But he said the N.S.A. decision to develop the new family of relatively cheap secure telephone represented a change in the Government's operating philosophy. "After considerable debate, we have decided that in order to reduce the hemorrhaging of secret and sensitive information to our enemies that we are willing to accept an erosion in our ability to collect intelligence," Mr. Deeley said.

In a recent interview at the N.S.A's heavily guarded headquarters at Fort George Meade, Md., half way between Washington and Baltimore, Mr. Deeley said he expected the new phones to be commercially available at about $2,000 each by April 1987.

The telephones were designed in an unusual competition in which the N.S.A. gave $1 million each to A.T.&T., G.T.E., I.T.T., Motorola and RCA. Before the three finalists were selected, the five companies worked for six months with a special 50-member N.S.A. task force. At the end of this period each of the companies had developed a plan for the design, production, marketing and repair of the telephones.

Nicholas F. Piazzola, chief of the task force, said the proposed phones would be one-tenth the size of the equipment now used to protect the secret telephone conversations of a relatively small number of officials, including the President, as well as Government contractors working on unusually sensitive military projects. He said the new telephones would also be far easier to install and operate and be significantly cheaper.

Earlier Versions Cost $35,000

The agency estimates that the additional steps required before the telephone will be available in the marketplace, such as testing the prototypes and developing the production lines, will cost it another $44 million. After that, Government agencies, military contractors and private companies that desire telephone security will pay $2,000 or less for each unit. Earlier versions have cost as much as $35,000.

If agencies dealing with national security and other Government organizations purchase 500,000 secure telephones, as predicted by the N.S.A., that part of the new system would cost $1 billion.

The cost of such telephones purchased by banks, utilities and other private organizations would presumably be covered by the slightly increased charges for the goods and services the companies offered.

In addition to the telephones themselves, the secure network will include two "key management centers" expected to cost a total of $30 million to $40 million. One of the centers will be used to provide a code setting for the secure telephones of Government agencies and contractors who deal with the Government. The second center, to be operated by a private company, will provide the settings to institutions that do no business with the Government.

Once the code setting is acquired by a particular telephone, each call originating from it to any other such telephone will be transmitted in a code based on the computerized selection of random digits.

The N.S.A. calls the new telephones "Secure Telephone Unit III" or "S.T.U. III." They measure 10 by 10 by 3 inches, weigh about 10 pounds and require less than 20 watts of power. The new telephone is portable and may be plugged into any standard jack.

Constantly Changing Codes

According to Mr. Piazzola, each telephone will have several specially designed computer chips that will transform the user's voice into a digital form, rearrange the order of these digits into an apparently random order and then prepare them for transmission. When the message is received by a person with one of the new telephones, the process is reversed. The phones process the conversation so fast that neither party is aware of any delay.

For secrecy to be maintained, all parties to a call must have the new equipment. However, the new phones can be used to carry on nonsecure con-

Continued

2

versations involving regular telephones.

Mr. Piazzola was asked whether the N.S.A., or the F.B.I. or local law-enforcement agencies could secretly intercept conversations carried on over the new telephones.

"Because they change their code every time you make a call," he replied, "it would be computationally mind-boggling and prohibitively expensive for even the most sophisticated listener to eavesdrop on any conversation."

Mr. Piazzola said that because of the constantly changing codes, an intelligence service that obtained one of the new telephones would not then be able to intercept protected conversations. "The system is designed so that, unlike the current generation of secure telephones, it will not be necessary to keep the new ones under lock and key," he said.

The official added that the Government would impose some "reasonable restrictions" on the exporting of the new telephones but added, "It would not damage the security of the system if the hardware was obtained by another country."

Without going into details, Mr. Piazzola said the new telephones were designed to protect against tampering "so you can't look into them and do reverse engineering."